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| EXAMINER |
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MACNEILL, ELIZABETH

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| ART UNIT | PAPER NUMBER |
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3767

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,360

Applicant(s)

VISCANTI ET AL.

Examiner

Elizabeth R. MacNeill

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 30-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claim 1 invokes the 6th paragraph by meeting the limits of the 3-pronged test

(See MPEP 2183). The means for "removably connecting the cartridge"

disclosed in the specification are a tab-receiving recess and tab-receiving groove.

Claims 11, 18, and 25 do not invoke 112 6th paragraph because the means for language is modified by structural limitations (i.e. the tubing assembly).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10,11, 14-16, 24, 25,28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by DeVALE (US #5,464,391).

Regarding claim 10, DeVale teaches a "cartridge cassette (#30, Col 3 line 39) for use with an surgical irrigation pump having a pumping actuator, the cartridge cassette comprising: a pumping chamber (#64, Col 4, line 26) in fluid communication with a source of fluid and an irrigation conduit; means for

removably connecting the cartridge to the surgical irrigation pump to establish working communication with the pumping actuator (#46 ,Col 4 line 12); an upstream valve (#28, Col 4 line 24) disposed in the cartridge and in fluid communication with the source of fluid and the pumping chamber; and a downstream valve (#34, Col 4 line 24) disposed in the cartridge and in fluid communication with the irrigation conduit and the pumping chamber.

Regarding claim 11, the cassette includes tubing assembly means for interconnecting the cartridge cassette and the source of fluid (Fig 1 #26).

Regarding claim 14, cartridge cassette includes a diaphragm (#88, Col 5 line 25)

Regarding claim 15, the diaphragm is preloaded (#88, Col 5 line 25)

Regarding claim 16, the diaphragm has a graduated cross-sectional thickness dimension such that the thickness dimension increases from a central portion of the diaphragm to radially outward portions of the diaphragm (See Fig 6, #88).

Regarding claim 24, DeVale teaches "A cartridge cassette (#30, Col 3 line 39) adapted to mate with a surgical irrigation pump to provide coupling of the cartridge cassette in the surgical irrigation pump to establish working communication with a pumping actuator, the cartridge cassette comprising: a pumping chamber (#64, Col 4, line 26); a flexible diaphragm covering the pumping chamber (#88, Col 5 line 25); an upstream valve (#28, Col 4 line 24) disposed in the cartridge adapted for fluid communication with a source of fluid and the pumping chamber; and a downstream valve (#34, Col 4 line 24)

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disposed in the cartridge adapted for fluid communication with an irrigation conduit and the pumping chamber.

Regarding claim 25, the cartridge includes tubing assembly means for interconnecting the cartridge cassette and the source of fluid (Fig 1 #26).

Regarding claim 28, the diaphragm is preloaded (#88, Col 5 line 25)

Regarding claim 29, the diaphragm has a graduated cross-sectional thickness dimension such that the thickness dimension increases from a central portion of the diaphragm to radially outward portions of the diaphragm (See Fig 6, #88).

3. Claims 10,13-17,21-24, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by MINICK (US #5,462,256).

Regarding claim 10, Minick teaches a "cartridge cassette (#10, Col 3 line 15) for use with an surgical irrigation pump having a pumping actuator, the cartridge cassette comprising: a pumping chamber (#22, Col 4, line 63) in fluid communication with a source of fluid and an irrigation conduit; means for removably connecting the cartridge to the surgical irrigation pump to establish working communication with the pumping actuator (#71 ,Col 4 line 28); an upstream valve (#61, Col 5 line 6) disposed in the cartridge and in fluid communication with the source of fluid and the pumping chamber; and a downstream valve (#62, Col 5 line 8) disposed in the cartridge and in fluid communication with the irrigation conduit and the pumping chamber.

Regarding claim 13, the cartridge cassette includes a tab receiving recess (#71, Col 4 line 28).

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Regarding claims 14, and 21, the cartridge cassette includes a diaphragm (#16, Col 4 line 17)

Regarding claims 15, 22, and 28 the diaphragm is preloaded (#16 Col 4 line 17)

Regarding claims 16, 23, and 29 the diaphragm has a graduated cross-sectional thickness dimension such that the thickness dimension increases from a central portion of the diaphragm to radially outward portions of the diaphragm (Col 4 lines 24-35).

Regarding claim 17, Minick teaches "A cartridge cassette (#10, Col 3 line 15) for use with an surgical irrigation pump having a pumping actuator, the cartridge cassette comprising: a pumping chamber (#22, Col 4 line 63) in fluid communication with a source of fluid and an irrigation conduit; a tab-receiving groove (#71, Col 4 line 28) in the cartridge cassette which is adapted to mate with a laterally outwardly projecting tab on the surgical irrigation pump to provide coupling of the cartridge cassette in the surgical irrigation pump to establish working communication with the pumping actuator; an upstream valve (#61, Col 5 line 6) disposed in the cartridge and in fluid communication with the source of fluid and the pumping chamber; and a downstream valve (#62, Col 5 line 8) disposed in the cartridge and in fluid communication with the irrigation conduit and the pumping chamber.

Regarding claim 24, Minick teaches "A cartridge cassette (#10, Col 3 line 15) adapted to mate with a surgical irrigation pump to provide coupling of the cartridge cassette in the surgical irrigation pump to establish working

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communication with a pumping actuator, the cartridge cassette comprising: a pumping chamber (#22, Col 4 line 63); a flexible diaphragm covering the pumping chamber (#16 Col 4 line 17); an upstream valve (#61, Col 5 line 6) disposed in the cartridge adapted for fluid communication with a source of fluid and the pumping chamber; and a downstream valve (#62, Col 5 line 8) disposed in the cartridge adapted for fluid communication with an irrigation conduit and the pumping chamber.

4. Claims 10,11,14-16,21-25,28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by NATWICK (US #5,158,437).

Regarding claim 10, Natwick teaches a "cartridge cassette (#300, Col 21 line 3) for use with an surgical irrigation pump having a pumping actuator, the cartridge cassette comprising: a pumping chamber (#350, Col 21 line 16) in fluid communication with a source of fluid and an irrigation conduit; means for removably connecting the cartridge to the surgical irrigation pump to establish working communication with the pumping actuator (#378, Col 21 line 62); an upstream valve (#306, Col 21 line 4) disposed in the cartridge and in fluid communication with the source of fluid and the pumping chamber; and a downstream valve (#308, Col 21 line 41) disposed in the cartridge and in fluid communication with the irrigation conduit and the pumping chamber.

Regarding claim 11, there is tubing means to connect the cartridge with the fluid source (#310, #312).

Regarding claim 14 the cartridge cassette includes a diaphragm (#340, Col 21 line 8)

Regarding claims 15 and 28 the diaphragm is preloaded (#340, Col 21 line 8)

Regarding claims 16 and 29 the diaphragm has a graduated cross-sectional thickness dimension such that the thickness dimension increases from a central portion of the diaphragm to radially outward portions of the diaphragm (See Fig 18,19, Col 21 lines 21-28).

Regarding claim 24, Natwick teaches "A cartridge cassette (#300, Col 21 line 3) adapted to mate with a surgical irrigation pump to provide coupling of the cartridge cassette in the surgical irrigation pump to establish working communication with a pumping actuator, the cartridge cassette comprising: a pumping chamber (#350, Col 21 line 16); a flexible diaphragm covering the pumping chamber (#340, Col 21 line 8); an upstream valve (#306, Col 21 line 4) disposed in the cartridge adapted for fluid communication with a source of fluid and the pumping chamber; and a downstream valve (#308, Col 21 line 41) disposed in the cartridge adapted for fluid communication with an irrigation conduit and the pumping chamber.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12,19,20,26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natwick, Minick and DeVale as applied to claims 10, 17, and 24 above, and further in view of ATKINSON (US #5,647,852) and MEDVICK (US #4,665,943).

Natwick, Minick and DeVale all teach cartridge cassettes according to the limitations of claims 10,17, and 24. They do not disclose the use of a spring-biased poppet valve in the upstream and downstream ports of the cassette. Instead, they disclose the use of a generic one-way flow valve.

Atkinson (#106, Col 4 line 13) discloses the use of poppet valves in a medical cartridge. Medvick teaches a spring-loaded poppet valve (#12).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the cartridge cassette of Natwick, Minick, or DeVale with the spring-loaded poppet valves of Atkinson or Medvick for improved flow characteristics over other valve choices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth R. MacNeill whose telephone number is (571)-272-9970. The examiner can normally be reached on 7:00-3:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Sirmons can be reached on (571)272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ERM

KEVIN C. SIRMONS
SUPERVISORY PATENT EXAMINER

A handwritten signature in cursive script that reads "Kevin C. Sirmons".